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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,054	11/15/2001	Byoung W. Min	SC11721TP	4428
23125	7590	02/03/2004	EXAMINER	
			LEE, HSIEN MING	
		ART UNIT		PAPER NUMBER
		2823		
DATE MAILED: 02/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/002,054	MIN, BYOUNG W.	
	<b>Examiner</b>	<b>Art Unit</b>	MW
	Hsien-Ming Lee	2823	

-- The MAILING DATE of this communication app ars on the cover sh et with th correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 4,6-10 and 13-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 10 and 13-17 is/are allowed.  
 6) Claim(s) \_\_\_\_\_ is/are rejected.  
 7) Claim(s) 4 and 6-9 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 11/15/01 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)                  4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                  5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                  6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Remarks***

1. Applicant's RCE filling request is acknowledged.
2. Claims 4, 6-10 and 13-17 are pending in the application.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

A brief description for each figure is required. Simply stating " FIGs. 1-8 are cross section .... .." is not acceptable. See M.P.E.P. 608 .01 (f) Appropriate correction is required.

### ***Claim Objections***

4. Claim 4 is objected to because of the following informalities: at line 16, "opposite the first side" should be -- opposite to the first side --. Appropriate correction is required.

### ***Allowable Subject Matter***

5. Claim 4 would be allowable if rewritten or amended to overcome the objection , set forth in this Office action.
6. Claims 6-9 are objected to as being dependent upon an objected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 10 and 13-17 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:  
The prior art of record, Mastsumoto to US 6,372,562, teaches a method, comprising:

- providing a semiconductor stack, including an active layer 3 formed on a first insulator layer 2, wherein the first insulator layer 2 is formed on the semiconductor substrate 1 (Fig.3);
- forming an opening in the first insulator layer 2 (Fig.4A);
- implanting the semiconductor substrate 1 through the opening and the first insulator layer 2 with a first species to form a first doped region 11 within the semiconductor substrate 1, wherein the first doped region 11 is the first conductivity type and is heavily doped (Fig.4B);
- after the implanting, forming a gate dielectric 6 on the active layer 3 (Fig.3C);
- forming a gate electrode 7 on the gate dielectric 6 (Fig.3C);
- forming a source region 8 in the active layer 3 adjacent a first side of the gate electrode 7 (Fig.3C);
- forming a drain region 8 in the active layer 3 adjacent a second side of the gate electrode 7, wherein the second side is opposite to the first side (Fig.3C);
- forming a first contact electrically connected to the first doped region.

In contrast, Mastsumoto neither teaches nor suggests forming a *masking layer* over the active layer, wherein the *active layer and the masking layer are patterned to have an opening*; implanting the semiconductor substrate *through the opening* (claim 4); forming a doped region within the semiconductor substrate *before* forming the gate electrode (claim 10); and forming a *doped region* within the semiconductor substrate under the opening by implanting through the opening in the active layer *before* forming the *second insulator layer*.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 703-305-7341 (before Feb. 4, 2004) or 571-272-1863 (on and after Feb. 4, 2004). The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone number for the organization where this application or proceeding is assigned is 703-305-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hsien-Ming Lee  
Examiner  
Art Unit 2823

Jan. 27, 2004

